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<110> PELLETIER, JERRY
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DUBOW, MICHAEL

<120> DNA SEQUENCES FROM STAPHYLOCOCCUS AUREUS BACTERIOPHAGE 44AHJD
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<210> 2

<211> 2286

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 2

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<211> 1944

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

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<210> 4

<211> 1764

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

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<211> 1464

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 5

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<210> 6
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 <213> Staphylococcus aureus Bacteriophage 44AHJD

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<210> 7

<211> 1227

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

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<210> 8
 <211> 984
 <212> DNA
 <213> Staphylococcus aureus Bacteriophage 44AHJD

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<213> Staphylococcus aureus Bacteriophage 44AHJD

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gtatgtatta cacatgagga ttattaaat gtggtttatt catcaagtga agttgaaaaa  360
tactacaat cacaaggctt cacagaacac aatgaagata caacaagtaa cactgatgaa  420
acatcgaatc aaaatgctac atcttagac aattcaactg gcatgactgc aacagaaac  480
gcttatgtgt cattaccaca aagtgagggt aacattgatg ttgataatac aacgttacga  540
ttcgctgata ataatacga tgataacggt aaaactgtga ataaatcgag taacgaaagt  600
aatcaaaacg caaaacgtaa tcaaaatcaa aaaggtaatg caaaaggtag acaattcact  660
aagcagtatt taattgataa tattgataaa gcgtacgatt taagaaagaa aattttaaat  720
gaatttgata aaaaatgttt ttacaaatt tggtag                               756
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<210> 10

<211> 753

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 10

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tttgatggtg catatggatt tcaatgtatg gacttatcag ttgcttatgt gtattacatt  120
actgacggta aagttcgcat gtggggaat gctaaagacg cgataaataa tgacttaaa  180
ggtttagcga cgggtgataa aaatacaccg agctttaaac ctcaattagg ggacgttgct  240
gtatatacaa atggacaata tggacatatt caatgtgtgt taagtggaaa tcttgattat  300
tatacatgct tagaacaaaa ctggttaggc ggcggttttg acggttgga aaaagcaacc  360
attagaacac attattatga cgggtgaact cactttatta gacctaaatt ttcaggtagt  420
aatagcaaag cattagaaac atcaaaagta aatacatttg gaaaatggaa acgaaaccaa  480
tacggcacat attatagaaa tgaaaatggt acatttacat gtggtttttt accaatattt  540
gcacgtgtcg gtagtccaaa attatcagaa cctaattggct attggtcca accaaacggt  600
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tataccat ataacgaagt ttgttatca gatggttacg tatggattgg ttataactgg 660
caaggcacac gttattatt accagtgcgc caatggaatg gaaaaacagg taatagttac 720
agtgttgga ttcctgggg ggtgttctca taa 753

<210> 11
<211> 483
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 11
ttggttagac atacgtctga aatggataga tggaaaaaag aaagagaagc tagaaaagag 60
caagaaaaag atttatttt aaatgatttt agtaatgta attttaaatt tgatgataaa 120
gattacaag aggcgtacat tgacacatgg aaacatttg cacatctgcc ctatttct 180
aaagaaagaa acgtatcata tgtaaatgct gtatcattgg taagagggtc aagacataaa 240
aaattaaatt atattctga aatatataac cgtaatgatg attctaataa taaaaacgct 300
aaaaagcata aatacgcttt atataattta caagctaaaa ataataattc ttcaatgtat 360
aaatatatta aagaaatcga tactttatat aaagaaattg gtaaatcaga tagaccagt 420
acaaatattg atgatgaaga tgtgaggat aactttttat attatgcaac atttgacgaa 480
taa 483

<210> 12
<211> 369
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 12
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aaagagtata tcgtagagc attattcaca aacaaagaat caaaattcgg tgaacaaggt 180
gttatcgtca ctgatgacta taacgtaaac ttaccgaacc acttaacaga attaattaaa 240
gaaatgagag cagatgagga cggtgttgac attatcaatg ctggagaagt tcaattcaca 300
atttatgaat atgaaaacaa aaaaggtaaa aaagggtact caatcaattt tggtaagta 360
tcattttaa 369

<210> 13
<211> 423
<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 13

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attcaaaag caattaaaaa taataactta tggcaaaaa aatcaatgag aggattttct 180
aaaaaattat tgatattctg tattatcatt ttagcaaaca tcattgacca gattttacaa 240
ttaaagggtg gtctactcat gattacaata tttattata ttgcaaatga gggactttct 300
attgtagaaa attgtgcaga aatggacgta ttagtaccag aacaaattaa agataaatta 360
agagtcatta aaaatgatac tgaaaagagt gataacaatg aacgatcaag agaagataga 420
taa 423

<210> 14

<211> 411

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 14

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gattattata atgataaatt tgaaaaattt acttcatcta ataaaaaatg tatagtaaaa 120
ataaatatgg gtgatgtgta tattgagttt gacaaacaat atgatgattt tgaaattgaa 180
aaagagttat ttacgttaga tatcgacatt gatattaataa aacatgtttt taatatactt 240
gtattttatt atagaaatta ttaagtaat gaattaataa gagaaatttt attaaacgtt 300
acaattgacg acgtattatc aaattttgat aaacctcttg aaagcgaatt aatgattatt 360
tatcaaaaca aagtcataata cgataatggg aaagtgattg accatgaata a 411

<210> 15

<211> 279

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 15

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aattatcaga acctaatggc tattggttcc aaccaaacgg ttatacacca tataacgaag 120
ttgtttatc agatggttac gtatggattg gttataactg gcaaggcaca cggtattatt 180
taccagtgcg ccaatggaat ggaaaaacag gtaatagtta cagtgttggg attcctggg 240
gggtgttctc ataatgggta ttttagcctt tttctttga 279

<211> 42
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 119
Met Ala Pro Ser Lys Asn Cys Ser Arg Thr Lys Val Ser Lys Ser Thr
1 5 10 15

Leu Val Ser Lys Ala Phe Phe Gly Ile Pro Ala Glu Ala Ile Leu Ile
20 25 30

Phe Pro Phe Thr Ser Tyr Ala Tyr Phe Leu
35 40

<210> 120
<211> 42
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 120
Met Ile Ile His Leu Ser Tyr His Ile Lys Thr Val Leu Ile Ser His
1 5 10 15

Val Ile Thr Leu Lys Ser Leu Arg Val Phe Ala Phe Ile Gln Ile Gln
20 25 30

Lys Gln Asn Val Asn Arg Tyr Tyr Leu Leu
35 40

<210> 121
<211> 42
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 121
Met Asn Val Cys Lys Leu Phe Arg Cys Glu Phe Cys Lys Thr Phe His
1 5 10 15

Ser Ile Val Ile Gly Phe Thr Ile Ile His Ile Ile Phe Ile Lys
20 25 30

Asn Arg Ile Ile Lys Ile Cys Phe Lys Leu
35 40

<210> 122
<211> 42
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 122
Met Arg Thr Leu Leu Thr Leu Ser Met Leu Glu Lys Phe Asn Ser Gln
1 5 10 15

Phe Met Asn Met Lys Thr Lys Lys Val Lys Lys Val Thr Gln Ser Ile
20 25 30

Leu Val Lys Tyr His Phe Asn Thr Ile Ser
35 40

<210> 123

<211> 41

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 123

Met Arg Gly Gln Val Leu Thr Leu Met Val His Met Asp Phe Asn Val
1 5 10 15

Trp Thr Tyr Gln Leu Leu Met Cys Ile Thr Leu Leu Thr Val Lys Phe
20 25 30

Ala Cys Gly Val Met Leu Lys Thr Arg
35 40

<210> 124

<211> 41

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 124

Val Cys Tyr Val Phe His Ser Arg Asn Arg Phe Val Ala Phe Leu Lys
1 5 10 15

Lys Cys Phe Cys Lys Val Leu Met Tyr Ser Phe Tyr Ala Phe Val Ile
20 25 30

Asn Cys Ile Tyr Leu Asn Trp Ile Ile
35 40

<210> 125

<211> 40

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 125

Met Ile Thr Met Asn Tyr Thr Ile Ser Leu Thr Val Thr Lys Thr Leu
1 5 10 15

Asn Val Ile Tyr Tyr Ser Leu His Leu Ser His His Val His Cys Ile
20 25 30

Thr Tyr Trp Phe Leu Ser Asn Thr
35 40

<210> 126

<211> 40

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 126

Met Ile Leu Val Met Leu Ile Leu Asn Leu Met Ile Lys Ile Tyr Lys
1 5 10 15

Arg Arg Thr Leu Thr His Gly Asn Ile Leu His Ile Cys Pro Ile Phe
20 25 30

Leu Lys Lys Glu Thr Tyr His Met
35 40

<210> 127
<211> 39
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 127
Met Trp Phe Ile His Gln Val Lys Leu Lys Asn Thr Tyr Asn His Lys
1 5 10 15

Ala Ser Gln Asn Thr Met Lys Ile Gln Gln Val Thr Leu Met Lys His
20 25 30

Arg Ile Lys Met Leu His Leu
35

<210> 128
<211> 39
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 128
Met Thr Gly Met Glu Ile Arg Cys Tyr Ser Thr Leu Val Arg Phe His
1 5 10 15

Lys Lys Leu Val Leu Ser Tyr Val Gln Asn Gln Leu Leu Val Ile Ile
20 25 30

Met Lys Phe Glu Tyr Ile Gln
35

<210> 129
<211> 38
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 129
Met Cys Leu Val Ile Ile Leu Leu Leu Val Phe Trp Leu Asn Asp Thr
1 5 10 15

Arg Glu Val Val Lys Ile Pro Gln Cys Ile His Tyr His His Leu Ser
20 25 30

Asn Glu Val Tyr Asn Leu
35

<210> 130
<211> 37
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 130
Val Ser Ile Thr Leu Gln Val Thr Lys Trp Asn Tyr Leu Glu Thr Arg
1 5 10 15

Gln Lys Lys Leu Lys Lys Trp Val His Gly Tyr Val Cys Gln Val Val
20 25 30

Thr Gln Ser Val Lys
35

<210> 131
<211> 36
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 131
Met Tyr His His Met Leu His His His Val Trp Tyr Cys Ile His Ser
1 5 10 15

Leu Met Ala Tyr Gln Ile Met Leu Val Ile Ile Leu Tyr Ser Leu Val
20 25 30

Val Leu Leu Asn
35

<210> 132
<211> 36
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 132
Met His Ile Ser Tyr Asp Ser Val Gln Thr Ser Tyr Leu Ser Val Arg
1 5 10 15

Phe Gln Tyr Pro Ile Tyr Leu Arg Leu Ser Gly Arg Ile Asn Trp Gly
20 25 30

Ser Ile Arg Val
35

<210> 133
<211> 36
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 133
Met Asp Phe Val Thr Leu Asp Tyr Leu Asn Arg His Tyr Ala Lys Ile
1 5 10 15

Leu His Gln Ile Leu Lys Leu Leu Leu Ile Val Pro Leu Thr Trp Gly
20 25 30

Arg Cys His Val
35

<210> 134
<211> 36
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 134
Met Tyr His Phe His Phe Tyr Asn Met Cys Arg Ile Gly Phe Val Ser
1 5 10 15

Ile Phe Gln Met Tyr Leu Leu Met Phe Leu Met Leu Cys Tyr Tyr
20 25 30

Tyr Leu Lys Ile
35

<210> 135
<211> 35
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 135
Met Cys Phe Gly Val Leu Ile Lys Tyr Leu Leu Arg Leu Ser Phe Tyr
1 5 10 15

Phe Ser Ser Tyr Leu Asn Tyr Leu Leu Ser Ala Ile Ala Ile Cys Ser
20 25 30

Lys Ser Leu
35

<210> 136
<211> 34
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 136
Val Val Phe Ala Thr Gln Leu Thr Asn Leu Leu Ile Leu Ile Lys Lys
1 5 10 15

Gln Ile Thr Cys Thr Leu His Asn Pro Ile Leu Lys Asn Leu Lys Val
20 25 30

Phe Gly

<210> 137
<211> 34
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 137
Met Arg Leu Val Phe Phe Leu Ile Ile Leu Ala Trp Leu Val Leu Leu
1 5 10 15

Lys Arg Val Val Asn Tyr His Cys His His Tyr Tyr His Cys Gln Thr
20 25 30

Asn His

<210> 138
<211> 33
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 138
Met Thr Ser Gln Ser Ile Asn Leu Cys Pro Lys Tyr Ile Thr Val His
1 5 10 15
His Leu Leu Lys Cys His Leu Cys Leu Met Gln Met Thr Ile Ser Leu
20 25 30

Ile

<210> 139
<211> 33
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 139
Val Val Glu Asn Val Ser Ile Ile Tyr Met Val Ser Ser Asn Leu Val
1 5 10 15
Ser Met Asn Thr Leu Lys His Tyr Ala Gln Glu Val His Lys Thr Ile
20 25 30

Asn

<210> 140
<211> 33
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 140
Met Ile Phe Phe Ile Leu Lys Val Thr Ser Val His Phe His Leu Thr
1 5 10 15
Thr Tyr Phe Gln Leu Asn Val Gln Tyr Ile Thr Asn Leu Ile Cys Ile
20 25 30

Tyr

<210> 141
<211> 133
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 141
Met Thr Glu Phe Asp Glu Ile Val Lys Pro Asp Asp Lys Glu Glu Thr

1 5 10 15
 Ser Glu Ser Thr Glu Glu Asn Leu Glu Ser Thr Glu Glu Thr Ser Glu
 20 25 30
 Ser Thr Glu Glu Ser Thr Glu Glu Ser Thr Glu Glu Ser Thr Glu Asp
 35 40 45
 Lys Thr Val Glu Thr Ile Glu Glu Glu Asn Glu Asn Lys Leu Glu Pro
 50 55 60
 Thr Thr Thr Asp Glu Asp Ser Ser Lys Phe Asp Pro Val Val Leu Glu
 65 70 75 80
 Gln Arg Ile Ala Ser Leu Glu Gln Gln Val Thr Thr Phe Leu Ser Ser
 85 90 95
 Gln Met Gln Gln Pro Gln Gln Val Gln Gln Thr Gln Ser Asp Val Thr
 100 105 110
 Glu Ser Asn Lys Glu Asp Asn Asp Tyr Ser Asp Glu Glu Leu Val Asp
 115 120 125
 Lys Leu Asp Leu Asp
 130

<210> 142
 <211> 100
 <212> PRT
 <213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 142
 Met Val Asn Val Asp Asn Ala Pro Glu Glu Lys Gly Gln Ala Tyr Thr
 1 5 10 15
 Glu Met Leu Gln Leu Phe Asn Lys Leu Ile Gln Trp Asn Pro Ala Tyr
 20 25 30
 Thr Phe Asp Asn Ala Ile Asn Leu Leu Ser Ala Cys Gln Gln Leu Leu
 35 40 45
 Leu Asn Tyr Asn Ser Ser Val Val Gln Phe Leu Asn Asp Glu Leu Asn
 50 55 60
 Asn Glu Thr Lys Pro Glu Ser Ile Leu Ser Tyr Ile Ala Gly Asp Asp
 65 70 75 80
 Pro Ile Glu Gln Trp Asn Met His Lys Gly Phe Tyr Glu Thr Tyr Asn
 85 90 95
 Val Tyr Val Phe
 100

<210> 143
 <211> 65
 <212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 143

Met Glu Asn Glu Thr Lys Asn Ile Glu Leu Lys His Val Phe Arg Phe
1 5 10 15

Lys Asn Gly Ser Leu Cys Ile Ala Leu Phe Asp Arg Thr Glu Asn Glu
20 25 30

Ile Ser Phe Tyr Asp Val Asp Ile Asp Glu Ile Glu Asp Leu Asn His
35 40 45

Asn Ser Val Leu Arg Val Ile Ser Thr Leu Leu Gly Ser Asp Asn Asn
50 55 60

Gly
65

<210> 144

<211> 60

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 144

Met Tyr Glu Gly Asn Asn Met Arg Ser Met Met Gly Thr Ser Tyr Glu
1 5 10 15

Asp Ser Arg Leu Asn Lys Arg Thr Glu Leu Asn Glu Asn Met Ser Ile
20 25 30

Asp Thr Asn Lys Ser Glu Asp Ser Tyr Gly Val Gln Ile His Ser Leu
35 40 45

Ser Lys Gln Ser Phe Thr Gly Asp Val Glu Glu Glu
50 55 60

<210> 145

<211> 49

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 145

Met Lys Thr Cys Gln Leu Ile Gln Ile Lys Val Lys Ile Val Met Val
1 5 10 15

Tyr Lys Phe Ile His Phe Gln Asn Asn His Leu Gln Val Thr Leu Arg
20 25 30

Arg Asn Asn Lys Leu Trp His Asn Asn Leu Gln Lys Met Lys Leu His
35 40 45

Phe

<210> 146

<211> 43

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 146

Met Ile Val Leu Lys Val Asn Glu Phe Val His His Asn Tyr Leu His
1 5 10 15

Phe Tyr Leu Tyr Gln Leu Thr Cys Phe His Leu Ile Leu Phe Val Tyr
20 25 30

Leu Ile Leu Asn Leu His Met Met Tyr Pro Ser
35 40

<210> 147

<211> 36

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 147

Met Phe Ser Phe Asn Ser Val Arg Leu Phe Asn Leu Glu Ser Ser Tyr
1 5 10 15

Asp Val Pro Ile Ile Glu Arg Met Leu Phe Pro Ser Tyr Met Phe Lys
20 25 30

Phe Leu Leu Ile
35

<210> 148

<211> 53

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 148

gatcccggtc gaccaagctt tacccatagc acgtcccaga ctacgccagc tga 53

<210> 149

<211> 53

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 149

agcttcagct ggcgtagtct gggacgtcgt atgggtaaag cttggtcgac cgg 53

<210> 150

<211> 21

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 150

aattctcgag taaaataaca t 21

<210> 151

<211> 37
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 151
cgggatccgc ctcttttct caacagtcac ctgatt 37

<210> 152
<211> 27
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 152
cgggatccat gaggggttcc gaagacg 27

<210> 153
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<212> DNA
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<400> 153
cccaagctta caattggac tttc 24

<210> 154
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<212> DNA
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<400> 154
ccgctcgagc tccaaattcc aaaacag 27

<210> 155
<211> 26
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 155
cgggatccaa taagactcct ttttac 26

<210> 156
<211> 10
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 156
gcgtcgaccg 10

<210> 157
<211> 20
<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 157

tattatcaa aactgaaca

20

<210> 158

<211> 20

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 158

cgggtgtata tccagtatt

20

<210> 159

<211> 133

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 159

Met Lys Ile Lys Val Lys Lys Glu Met Arg Leu Asp Glu Leu Ile Lys

1 5 10 15

Trp Ala Arg Glu Asn Pro Asp Leu Ser Gln Cys Lys Ile Phe Phe Ser

20 25 30

Thr Gly Phe Ser Asp Gly Phe Val Arg Phe His Pro Asn Thr Asn Lys

35 40 45

Cys Ser Thr Ser Ser Phe Ile Pro Ile Asp Ile Pro Phe Ile Val Asp

50 55 60

Ile Glu Lys Glu Val Thr Glu Glu Thr Lys Val Asp Arg Leu Ile Glu

65 70 75 80

Leu Phe Glu Ile Gln Glu Gly Asp Tyr Asn Ser Thr Leu Tyr Glu Asn

85 90 95

Thr Ser Ile Lys Glu Cys Leu Tyr Gly Arg Cys Val Pro Thr Lys Ala

100 105 110

Phe Tyr Ile Leu Asn Asp Asp Leu Thr Met Thr Leu Ile Trp Lys Asp

115 120 125

Gly Glu Leu Leu Val

130

<210> 160

<211> 37

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 160

aaatcaggtg actgttgaga aaaggaggcg gatcccg

37

<210> 161
<211> 27
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 161
cgggatccat gaggggtcc gaagacg 27

<210> 162
<211> 24
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 162
gaaagtccaa attgtaagct tggg 24

<210> 163
<211> 23
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 163
tgagaaaagg aggcggatcc atg 23

<210> 164
<211> 26
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 164
gtaaaaagga gtcttattgg atcccg 26

<210> 165
<211> 21
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 165
aggagtctta ttggatccat g 21

<210> 166
<211> 1134
<212> DNA
<213> Staphylococcus aureus

<400> 166
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gctatttcac caagaacaac attacctata ttaactggta tcaaaatcga tgcgaaagaa 120
catgaagtta tattaactgg ttcagactct gaaattcaa tagaaatcac tattcctaaa 180

actgtagatg gcgaagatat tgtaaatatt tcagaaacag gctcagtagt acttcttga 240
cgattctttg ttgatattat aaaaaaatta cctggtaaag atgttaaatt atctacaaat 300
gaacaattcc agacattaat tacatcaggt cattctgaat ttaatttaag tggcttagat 360
ccagatcaat atcctttatt acctcaagtt tctagagatg acgcaattca attgtcggta 420
aaagtgccta aaaacgtgat tgcacaaaca aattttgcag tgtccacctc agaaacacgc 480
ccagtactaa ctggtgtgaa ctggcttata caagaaaatg aattaatatg cacagcgact 540
gactcacacc gcttggctgt aagaaagttg cagttagaag atgtttctga aaacaaaaat 600
gtcatcattc caggtaaggc ttagctgaa taaataaaa ttatgtctga caatgaagaa 660
gacattgata tcttcttgc tcaaaccac gtttattta aagtggaaa tgaacttt 720
atttctcgat tattagaagg acattatcct gatacaacac gtttattccc tgaaaactat 780
gaaattaaat taagtataga caatggggag tttatcatg cgattgatcg tgctcttta 840
ttagcgctg aaggtggtaa taacgttatt aaattaagta cagggtgatga cgttgttga 900
ttgtctcta catcaccaga aattgttact gtaaaagaag aagtgtatgc aaacgatgtt 960
gaaggtgga gcctgaaaa ttcattcaac tctaaatata tgatggatgc tttaaaagca 1020
atcgataatg atgaggtga agttgaattc ttcggtacaa tgaaccatt tattctaaaa 1080
ccaaaagggt acgactcggg aacgaatta attttaccaa tcagaactta ctaa 1134

<210> 167

<211> 377

<212> PRT

<213> Staphylococcus aureus

<400> 167

Met Met Glu Phe Thr Ile Lys Arg Asp Tyr Phe Ile Thr Gln Leu Asn
1 5 10 15

Asp Thr Leu Lys Ala Ile Ser Pro Arg Thr Thr Leu Pro Ile Leu Thr
20 25 30

Gly Ile Lys Ile Asp Ala Lys Glu His Glu Val Ile Leu Thr Gly Ser
35 40 45

Asp Ser Glu Ile Ser Ile Glu Ile Thr Ile Pro Lys Thr Val Asp Gly
50 55 60

Glu Asp Ile Val Asn Ile Ser Glu Thr Gly Ser Val Val Leu Pro Gly
65 70 75 80

Arg Phe Phe Val Asp Ile Ile Lys Lys Leu Pro Gly Lys Asp Val Lys
85 90 95

Leu Ser Thr Asn Glu Gln Phe Gln Thr Leu Ile Thr Ser Gly His Ser
100 105 110

Glu Phe Asn Leu Ser Gly Leu Asp Pro Asp Gln Tyr Pro Leu Leu Pro
115 120 125

Gln Val Ser Arg Asp Asp Ala Ile Gln Leu Ser Val Lys Val Leu Lys
130 135 140

Asn Val Ile Ala Gln Thr Asn Phe Ala Val Ser Thr Ser Glu Thr Arg
145 150 155 160

Pro Val Leu Thr Gly Val Asn Trp Leu Ile Gln Glu Asn Glu Leu Ile
165 170 175

Cys Thr Ala Thr Asp Ser His Arg Leu Ala Val Arg Lys Leu Gln Leu
180 185 190

Glu Asp Val Ser Glu Asn Lys Asn Val Ile Ile Pro Gly Lys Ala Leu
195 200 205

Ala Glu Leu Asn Lys Ile Met Ser Asp Asn Glu Glu Asp Ile Asp Ile
210 215 220

Phe Phe Ala Ser Asn Gln Val Leu Phe Lys Val Gly Asn Val Asn Phe
225 230 235 240

Ile Ser Arg Leu Leu Glu Gly His Tyr Pro Asp Thr Thr Arg Leu Phe
245 250 255

Pro Glu Asn Tyr Glu Ile Lys Leu Ser Ile Asp Asn Gly Glu Phe Tyr
260 265 270

His Ala Ile Asp Arg Ala Ser Leu Leu Ala Arg Glu Gly Gly Asn Asn
275 280 285

Val Ile Lys Leu Ser Thr Gly Asp Asp Val Val Glu Leu Ser Ser Thr
290 295 300

Ser Pro Glu Ile Gly Thr Val Lys Glu Glu Val Asp Ala Asn Asp Val
305 310 315 320

Glu Gly Gly Ser Leu Lys Ile Ser Phe Asn Ser Lys Tyr Met Met Asp
325 330 335

Ala Leu Lys Ala Ile Asp Asn Asp Glu Val Glu Val Glu Phe Phe Gly
340 345 350

Thr Met Lys Pro Phe Ile Leu Lys Pro Lys Gly Asp Asp Ser Val Thr
355 360 365

Gln Leu Ile Leu Pro Ile Arg Thr Tyr
370 375

<210> 168

<211> 10

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Illustrative Sal I
restriction site

<400> 168

gcgtcgaccg

10

<210> 169

<211> 20

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 169
tattatccaa aactgaaca 20

<210> 170
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 170
cgggtgtata tccagtgatt 20

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 82

Met Ala Arg Tyr Thr Met Thr Leu Tyr Asp Phe Ile Lys Ser Glu Leu
1 5 10 15

Ile Lys Lys Gly Phe Asn Glu Phe Val Asn Asp Asn Lys Leu Thr Phe
20 25 30

Tyr Asp Asp Glu Phe Gln Phe Met Gln Lys Met Leu Lys Phe Asp Lys
35 40 45

Asp Val Leu Ala Ile Val Asn Glu Lys Val Phe Lys Gly Phe Ser Leu
50 55 60

Lys Asp Glu Leu Ser Asp Leu Leu Phe Lys Lys Ser Phe Thr Ile His
65 70 75 80

Phe Leu Asp Arg Glu Ile Asn Arg Gln Thr Val Glu Ala Phe Gly Met
85 90 95

Gln Val Ile Thr Val Cys Ile Thr His Glu Asp Tyr Leu Asn Val Val
100 105 110

Tyr Ser Ser Ser Glu Val Glu Lys Tyr Leu Gln Ser Gln Gly Phe Thr
115 120 125

Glu His Asn Glu Asp Thr Thr Ser Asn Thr Asp Glu Thr Ser Asn Gln
130 135 140

Asn Ala Thr Ser Leu Asp Asn Ser Thr Gly Met Thr Ala Asn Arg Asn
145 150 155 160

Ala Tyr Val Ser Leu Pro Gln Ser Glu Val Asn Ile Asp Val Asp Asn
165 170 175

Thr Thr Leu Arg Phe Ala Asp Asn Asn Thr Ile Asp Asn Gly Lys Thr
180 185 190

Val Asn Lys Ser Ser Asn Glu Ser Asn Gln Asn Ala Lys Arg Asn Gln
195 200 205

Asn Gln Lys Gly Asn Ala Lys Gly Thr Gln Phe Thr Lys Gln Tyr Leu
210 215 220

Ile Asp Asn Ile Asp Lys Ala Tyr Asp Leu Arg Lys Lys Ile Leu Asn
225 230 235 240

Glu Phe Asp Lys Lys Cys Phe Leu Gln Ile Trp
245 250

<210> 83

<211> 250

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 83

Met Lys Ser Gln Gln Gln Ala Lys Glu Trp Ile Tyr Lys His Glu Gly
1 5 10 15

Ala Gly Val Asp Phe Asp Gly Ala Tyr Gly Phe Gln Cys Met Asp Leu
20 25 30

Ser Val Ala Tyr Val Tyr Tyr Ile Thr Asp Gly Lys Val Arg Met Trp
35 40 45

Gly Asn Ala Lys Asp Ala Ile Asn Asn Asp Phe Lys Gly Leu Ala Thr
50 55 60

Val Tyr Lys Asn Thr Pro Ser Phe Lys Pro Gln Leu Gly Asp Val Ala
65 70 75 80

Val Tyr Thr Asn Gly Gln Tyr Gly His Ile Gln Cys Val Leu Ser Gly
85 90 95

Asn Leu Asp Tyr Tyr Thr Cys Leu Glu Gln Asn Trp Leu Gly Gly Gly
100 105 110

Phe Asp Gly Trp Glu Lys Ala Thr Ile Arg Thr His Tyr Tyr Asp Gly
115 120 125

Val Thr His Phe Ile Arg Pro Lys Phe Ser Gly Ser Asn Ser Lys Ala
130 135 140

Leu Glu Thr Ser Lys Val Asn Thr Phe Gly Lys Trp Lys Arg Asn Gln
145 150 155 160

Tyr Gly Thr Tyr Tyr Arg Asn Glu Asn Gly Thr Phe Thr Cys Gly Phe
165 170 175

Leu Pro Ile Phe Ala Arg Val Gly Ser Pro Lys Leu Ser Glu Pro Asn
180 185 190

Gly Tyr Trp Phe Gln Pro Asn Gly Tyr Thr Pro Tyr Asn Glu Val Cys
195 200 205

Leu Ser Asp Gly Tyr Val Trp Ile Gly Tyr Asn Trp Gln Gly Thr Arg
210 215 220

Tyr Tyr Leu Pro Val Arg Gln Trp Asn Gly Lys Thr Gly Asn Ser Tyr
225 230 235 240

Ser Val Gly Ile Pro Trp Gly Val Phe Ser
245 250

<210> 84

<211> 160

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 84

Leu Val Arg His Thr Ser Glu Met Asp Arg Trp Lys Lys Glu Arg Glu

1 5 10 15
 Ala Arg Lys Glu Gln Glu Lys Asp Leu Phe Leu Asn Asp Phe Ser Asn
 20 25 30
 Val Asn Phe Lys Phe Asp Asp Lys Asp Leu Gln Glu Ala Tyr Ile Asp
 35 40 45
 Thr Trp Lys His Phe Ala His Leu Pro Tyr Phe Pro Lys Glu Arg Asn
 50 55 60
 Val Ser Tyr Val Asn Ala Val Ser Leu Val Arg Gly Ser Arg His Lys
 65 70 75 80
 Lys Leu Asn Tyr Ile Leu Glu Ile Tyr Asn Arg Asn Asp Asp Ser Asn
 85 90 95
 Asn Lys Asn Ala Lys Lys His Lys Tyr Ala Leu Tyr Asn Leu Gln Ala
 100 105 110
 Lys Asn Asn Asn Ser Ser Met Tyr Lys Tyr Ile Lys Glu Ile Asp Thr
 115 120 125
 Leu Tyr Lys Glu Ile Gly Lys Ser Asp Arg Pro Val Thr Asn Ile Asp
 130 135 140
 Asp Glu Asp Val Arg Tyr Asn Phe Leu Tyr Tyr Ala Thr Phe Asp Glu
 145 150 155 160

<210> 85
 <211> 122
 <212> PRT
 <213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 85
 Met Thr Asn Val Lys Asp Ile Leu Ser Arg His Gln Asn Thr Leu Ala
 1 5 10 15
 Arg Phe Glu Phe Glu Glu Lys Glu Arg Glu Phe Ile Lys Leu Ser Glu
 20 25 30
 Leu Val Glu Lys Tyr Gly Met Lys Lys Glu Tyr Ile Val Arg Ala Leu
 35 40 45
 Phe Thr Asn Lys Glu Ser Lys Phe Gly Glu Gln Gly Val Ile Val Thr
 50 55 60
 Asp Asp Tyr Asn Val Asn Leu Pro Asn His Leu Thr Glu Leu Ile Lys
 65 70 75 80
 Glu Met Arg Ala Asp Glu Asp Val Val Asp Ile Ile Asn Ala Gly Glu
 85 90 95
 Val Gln Phe Thr Ile Tyr Glu Tyr Glu Asn Lys Lys Gly Gln Lys Gly
 100 105 110

Tyr Ser Ile Asn Phe Gly Gln Val Ser Phe
115 120

<210> 86

<211> 140

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 86

Met Asn Glu Val Lys Phe Arg Phe Thr Asp Ser Glu Ala Phe His Met
1 5 10 15

Phe Ile Tyr Ala Gly Asp Leu Lys Leu Leu Tyr Phe Leu Phe Val Leu
20 25 30

Met Phe Val Asp Ile Ile Thr Gly Ile Ser Lys Ala Ile Lys Asn Asn
35 40 45

Asn Leu Trp Ser Lys Lys Ser Met Arg Gly Phe Ser Lys Lys Leu Leu
50 55 60

Ile Phe Cys Ile Ile Ile Leu Ala Asn Ile Ile Asp Gln Ile Leu Gln
65 70 75 80

Leu Lys Gly Gly Leu Leu Met Ile Thr Ile Phe Tyr Tyr Ile Ala Asn
85 90 95

Glu Gly Leu Ser Ile Val Glu Asn Cys Ala Glu Met Asp Val Leu Val
100 105 110

Pro Glu Gln Ile Lys Asp Lys Leu Arg Val Ile Lys Asn Asp Thr Glu
115 120 125

Lys Ser Asp Asn Asn Glu Arg Ser Arg Glu Asp Arg
130 135 140

<210> 87

<211> 136

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 87

Met Lys Ile Lys Thr Thr Phe Arg Leu Asn Asn Leu Ile Tyr Tyr Leu
1 5 10 15

Leu Thr Asn Arg Asp Tyr Tyr Asn Asp Lys Phe Glu Lys Phe Thr Ser
20 25 30

Ser Asn Lys Lys Cys Ile Val Lys Ile Asn Met Gly Asp Val Tyr Ile
35 40 45

Glu Phe Asp Lys Gln Tyr Asp Asp Phe Glu Ile Glu Lys Glu Leu Phe
50 55 60

Thr Leu Asp Ile Asp Ile Asp Ile Lys Lys His Val Phe Asn Ile Leu
65 70 75 80

Val Phe Tyr Tyr Arg Asn Tyr Leu Ser Asn Glu Leu Ile Arg Glu Ile
85 90 95

Leu Leu Asn Val Thr Ile Asp Asp Val Leu Ser Asn Phe Asp Lys Pro
100 105 110

Leu Glu Ser Glu Leu Met Ile Ile Tyr Gln Asn Lys Val Ile Tyr Asp
115 120 125

Asn Gly Lys Val Ile Asp His Glu
130 135

<210> 88

<211> 92

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 88

Met Lys Met Val His Leu His Val Val Phe Tyr Gln Tyr Leu His Val
1 5 10 15

Ser Val Val Gln Asn Tyr Gln Asn Leu Met Ala Ile Gly Ser Asn Gln
20 25 30

Thr Val Ile His His Ile Thr Lys Phe Val Tyr Gln Met Val Thr Tyr
35 40 45

Gly Leu Val Ile Thr Gly Lys Ala His Val Ile Ile Tyr Gln Cys Ala
50 55 60

Asn Gly Met Glu Lys Gln Val Ile Val Thr Val Leu Val Phe Leu Gly
65 70 75 80

Gly Cys Ser His Asn Gly Tyr Phe Ser Leu Phe Leu
85 90

<210> 89

<211> 80

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 89

Val Thr Ile Thr Pro Cys Ser Pro Asn Phe Asp Ser Leu Phe Val Asn
1 5 10 15

Asn Ala Leu Thr Ile Tyr Ser Phe Phe Ile Pro Tyr Phe Ser Thr Asn
20 25 30

Ser Asp Ser Leu Ile Asn Ser Leu Ser Phe Ser Ser Asn Ser Asn Leu
35 40 45

Ala Asn Val Phe Trp Cys Leu Asp Lys Ile Ser Phe Thr Phe Val Ile
50 55 60

Leu Phe Leu Leu Leu Phe Lys Leu Phe Ala Phe Cys Asn Cys Asp Leu

65 70 75 80

<210> 90

<211> 78

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 90

Met Lys Val Asp Asp Ile Val Thr Leu Arg Val Lys Gly Tyr Ile Leu
1 5 10 15

His Tyr Leu Asp Asp Asp Asn Glu Tyr Ile Glu Glu Phe Leu Pro Leu
20 25 30

His Glu Tyr His Leu Thr Lys Thr Gln Ala Lys Glu Leu Leu Pro Asp
35 40 45

Thr Cys Lys Leu Leu Ser Thr Thr Arg Thr Thr Lys Thr Ile Gln Val
50 55 60

Tyr Tyr Asn Asp Leu Leu Gln Ile Ala Ile Ala Glu Ser Lys
65 70 75

<210> 91

<211> 73

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 91

Met Glu Arg Leu Lys Leu Leu Leu Val Tyr Arg Lys Thr Pro Leu
1 5 10 15

Ile Gln Ala Ser Ile Leu Lys Pro Leu Tyr Val Asn Asn Ser Leu Thr
20 25 30

Val Pro Leu Leu Lys Thr Ile Lys Val Ser Ile Met Ser Lys Val Gln
35 40 45

Tyr Arg Tyr Ile Arg Leu Lys Leu Lys Leu Tyr Val Val Met Tyr Met
50 55 60

Met Asn Ile Leu Leu Met Asn Leu Ile
65 70

<210> 92

<211> 70

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 92

Met Leu Ile Gly Thr Val Ser Ile Ile Thr Tyr Ser Ser Leu Tyr Cys
1 5 10 15

Pro Ile Lys Ser Cys Ser Leu Ala Asn Gln Leu Lys Arg Leu Pro Asn
20 25 30

Ala Ile Ser Ile Asn Lys Val Ser Leu Ile Leu Gly Asn Lys Tyr Leu
35 40 45

Phe Thr Asn Val Ser Asn Ile Val Phe Glu Leu Ser His Leu Ser Pro
50 55 60

Asn Val Gln Asp Phe Glu
65 70

<210> 93

<211> 68

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 93

Met Leu Pro Gly Leu Tyr Lys Tyr Ser Phe Leu Asn Lys Gly Thr Pro
1 5 10 15

Ile Ala Phe Leu Tyr Phe Ser Gly Asn Cys Ala Tyr Val Gln Leu Pro
20 25 30

Pro Ile Thr Arg Pro Leu Phe Pro Phe Gly Leu Thr Asp Leu Pro Leu
35 40 45

Ile Gly Leu Trp Ser Pro Ser Ser Val Gly Leu Glu Leu Leu Leu
50 55 60

Pro Leu Ser Thr
65

<210> 94

<211> 62

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 94

Met Ser Lys Arg Phe Cys Phe Thr Met Phe Leu Leu Leu Val Ile Val
1 5 10 15

Tyr Asp Val Val Tyr Ser Val Lys Phe Ile Arg Gln Met Leu His Asn
20 25 30

Ile Lys Ser Tyr Thr Ser His Leu His His Gln Tyr Leu Ser Leu Val
35 40 45

Tyr Leu Ile Tyr Gln Phe Leu Tyr Ile Lys Tyr Arg Phe Leu
50 55 60

<210> 95

<211> 60

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 95

Met His His Gln Ser Gln His Leu Pro Pro His Ala Tyr Ile Ser Ile
1 5 10 15

Leu Leu Leu Val Val Val Ile Ser Phe Ile Ser Leu Leu Phe Leu Met
20 25 30

Phe Cys Tyr Pro Thr Ile Phe Thr Met Phe Cys Phe Arg Ile Asn Ile
35 40 45

Thr Glu Glu Phe Phe Ile Phe Arg Tyr Ile Ser Leu
50 55 60

<210> 96

<211> 47

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 96

Met Phe Ala Lys Met Ile Ile Gln Asn Ile Asn Asn Phe Leu Glu Asn
1 5 10 15

Pro Leu Ile Asp Phe Phe Asp His Lys Leu Leu Phe Leu Ile Ala Phe
20 25 30

Glu Ile Pro Val Ile Ile Ser Thr Asn Ile Asn Thr Asn Lys Lys
35 40 45

<210> 97

<211> 59

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 97

Met Arg Thr Pro Pro Lys Glu Tyr Gln His Cys Asn Tyr Tyr Leu Phe
1 5 10 15

Phe His Ser Ile Gly Ala Leu Val Asn Asn Asn Val Cys Leu Ala Ser
20 25 30

Tyr Asn Gln Ser Ile Arg Asn His Leu Ile Asn Lys Leu Arg Tyr Met
35 40 45

Val Tyr Asn Arg Leu Val Gly Thr Asn Ser His
50 55

<210> 98

<211> 58

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 98

Val Ser Met Tyr Ala Ser Cys Lys Ser Leu Ser Ser Asn Leu Lys Leu
1 5 10 15

Thr Leu Leu Lys Ser Phe Lys Asn Lys Ser Phe Ser Cys Ser Phe Leu
20 25 30

Ala Ser Leu Ser Phe Phe His Leu Ser Ile Ser Asp Val Cys Leu Thr

35 40 45
Asn Val Ile Asn Leu His Ile Lys His Lys
50 55

<210> 99
<211> 58
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 99
Met Glu Arg Lys Tyr Lys Thr Val Leu Leu Tyr Cys Asp Glu Ile Lys
1 5 10 15

Gly His Phe Pro His Gln Ile Ser Met Phe Glu Asp Leu Tyr Asp Ala
20 25 30

Lys Val Val Tyr Ser Tyr Tyr Glu Tyr Asn Leu Phe Thr Lys Lys Tyr
35 40 45

Ala Tyr Ile Ile Glu Tyr Ile Lys Glu Ile
50 55

<210> 100
<211> 55
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 100
Met Asn Asn Leu Leu Asn Ile Ala Ile Val Phe Leu Leu Ala Phe Leu
1 5 10 15

Ile Thr Leu Ile Ile Leu Met Thr Leu His Ile Arg Val Ser Phe Gly
20 25 30

Val Leu Phe Thr Thr Leu Ile Ile Phe Tyr Ile Ile Phe Leu Met Val
35 40 45

Ile Tyr Ala Leu Tyr Gly Gly
50 55

<210> 101
<211> 54
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 101
Met Ile Val Tyr Ile Pro Asn Phe Ser Thr Lys Phe Ile Leu Phe Cys
1 5 10 15

Ile Trp Tyr Asn Asp Asn Ile Cys His Lys Ser Ser Tyr Ile Ile His
20 25 30

Asp Phe Asn Ile Phe Ile Ile Ser Phe Asp Ile Glu Glu Ile Thr Val
35 40 45

Leu Ile Asp Val Ile Ser
50

<210> 102
<211> 54
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 102
Met Glu Tyr Met His Val Gln Leu Tyr Leu Leu Ser Tyr Phe Leu Gln
1 5 10 15

Asn Leu His Tyr Leu Phe Phe Val Arg Leu Val Val Gln Ser Gly Arg
20 25 30

Cys Tyr Leu Arg His Thr Lys Thr Val Val Gln Leu Val Leu Ile Val
35 40 45

Ile Leu Thr Phe Leu Leu
50

<210> 103
<211> 54
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 103
Val Phe Lys Trp Asn Val Asn Thr Lys Arg Tyr Tyr Tyr Ile Ala Met
1 5 10 15

Arg Leu Lys Asp Ile Phe His Ile Lys Ser Gln Cys Leu Lys Ile Tyr
20 25 30

Met Thr Leu Lys Leu Tyr Ile His Ile Met Asn Ile Thr Cys Ser Leu
35 40 45

Lys Asn Thr Arg Ile Ser
50

<210> 104
<211> 53
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 104
Val Asn Lys Thr Pro Asn Asp Thr Arg Ile Cys Ser Val Ile Ser Met
1 5 10 15

Ile Ser Val Ile Lys Asn Ala Lys Arg Lys Thr Met Ala Met Phe Asn
20 25 30

Arg Leu Phe Met Val Asn His Phe Pro Ile Ile Val Tyr Asp Phe Val
35 40 45

Leu Ile Asn Asn His
50

<210> 105
<211> 50
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 105
Met Ile Leu Tyr Ser Ser Leu Leu Ser Ser Lys Arg Asn Lys Leu Lys
1 5 10 15

Cys Glu Arg Asn Ala Gly Met Pro Tyr Asn Pro Phe Lys Thr Thr Leu
20 25 30

Asp Asn Ile Thr Ser Ser Phe Glu Tyr Gly Cys Ser Leu Ile Ser Ser
35 40 45

Val Met
50

<210> 106
<211> 49
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 106
Met Ala Cys Phe Ala Lys Ala Ser Ser Glu Leu Pro Leu Ser Pro Leu
1 5 10 15

Leu Pro Leu Ser Asp Glu Ser Leu Gly Asp Pro Pro Leu Pro Ser Asn
20 25 30

Leu Pro Pro Gln Ala Arg Ile Val Phe Ala Pro Ser Lys Asn Gly Leu
35 40 45

Pro

<210> 107
<211> 49
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 107
Met Pro Leu Phe Asn His Leu Tyr Gln Ile Cys Lys Lys His Phe Leu
1 5 10 15

Ser Asn Ser Phe Lys Ile Phe Phe Leu Lys Ser Tyr Ala Leu Ser Ile
20 25 30

Leu Ser Ile Lys Tyr Cys Leu Val Asn Cys Val Pro Phe Ala Leu Pro
35 40 45

Phe

<210> 108
<211> 48
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 108
Met Met Ile Leu Ile Ile Lys Thr Leu Lys Ser Ile Asn Thr Leu Tyr
1 5 10 15

Ile Ile Tyr Lys Leu Lys Ile Ile Ile Leu Gln Cys Ile Asn Ile Leu
20 25 30

Lys Lys Ser Ile Leu Tyr Ile Lys Lys Leu Val Asn Gln Ile Asp Gln
35 40 45

<210> 109
<211> 48
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 109
Met Gln His Leu Thr Asn Lys Phe Asn Thr Val Asn Asp Ile Ile Asn
1 5 10 15

Tyr Tyr Lys Glu Gln Lys His Gly Lys Thr Lys Ser Phe Arg His Gly
20 25 30

Lys Arg Leu Ser Lys Cys Cys Gln Ser Cys Gln Lys Lys Asn Pro Arg
35 40 45

<210> 110
<211> 48
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 110
Val Tyr Thr Ile Pro His Val Met Val Gln His Met Val Val His Tyr
1 5 10 15

Ser Leu Gln Leu Lys Thr Asn His Leu Gln Lys Leu Leu Gln Gln His
20 25 30

Leu Cys Asp Gln Tyr His Met Gln Leu Leu Val Ser Met Val Val Tyr
35 40 45

<210> 111
<211> 47
<212> PRT
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 111
Met Ser Ile Ser Asn Val Asn Asn Ser Phe Ser Ile Ser Lys Ser Ser
1 5 10 15

Tyr Cys Leu Ser Asn Ser Ile Tyr Thr Ser Pro Ile Phe Ile Phe Thr
20 25 30

Ile His Phe Leu Leu Asp Glu Val Asn Phe Ser Asn Leu Ser Leu
35 40 45

<210> 112

<211> 47

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 112

Val Tyr Leu Leu His Tyr Leu Phe Asp Phe Asp Tyr Val Leu Arg Phe
1 5 10 15

Asp Tyr Phe Arg Tyr Ser Ile Tyr Ser Gln Phe Tyr Arg Tyr Gln Ser
20 25 30

Tyr Tyr Tyr Gln Arg Ile Val Thr Leu Tyr Tyr Gln His Gln Cys
35 40 45

<210> 113

<211> 46

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 113

Val Leu Tyr Leu Leu Met Met Tyr Leu Asn Leu Lys Ser Leu Leu Ala
1 5 10 15

Thr Leu Lys Lys Leu Asn Gln Asn Gln Ile Tyr Met Arg Leu Phe Trp
20 25 30

Ile Leu Ile Gln Leu Asn Ile Asn Val Thr Gln Lys Val Cys
35 40 45

<210> 114

<211> 45

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 114

Val Val Thr Gly His Met His Ser Tyr Gln Lys Asn Ile Lys Lys Gln
1 5 10 15

Leu Val Tyr Leu Tyr Ser Lys Lys Asn Thr Tyr Thr Asn Gln Val Thr
20 25 30

Tyr Phe Leu Lys Arg Val Met Gln Asp Asn Val Gln Asn
35 40 45

<210> 115

<211> 45

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 115

Met Ser Ser Thr Phe Ile Ile Ile Ser Leu Leu Ser Lys Lys Arg Lys
1 5 10 15

Arg Tyr Thr Phe His Lys Ile Leu Tyr Ala Tyr Ser Ile Val Leu Leu
20 25 30

Gly His His Gln Gln Tyr Lys Thr Ile Leu Ile Leu Val
35 40 45

<210> 116

<211> 45

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 116

Met His Asp Arg Arg Leu Leu Leu Ile Tyr Ser Phe Val Asn Leu Leu
1 5 10 15

Arg Val Met Leu Gln Ser Val His Thr His Gln Val Gly Arg Asn His
20 25 30

Ile Asn Tyr Gly Asn Val Phe His His Arg Arg Leu Ser
35 40 45

<210> 117

<211> 45

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 117

Met Arg Leu Val Thr Val Leu Gln His His Arg Asp Val Thr Arg Phe
1 5 10 15

Ser Phe His His Trp Ile Asp Val Leu Ile Arg Leu Leu Tyr His Asp
20 25 30

His Pro Val Gln Tyr Ala Cys Leu Lys Leu Ser His His
35 40 45

<210> 118

<211> 44

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 118

Met Leu Pro Ile Tyr Val Met Ile Cys Phe Ile Lys Lys Thr Trp Asn
1 5 10 15

Val Ile Thr Thr Ile Gln Ala Ile Tyr Ile Leu Thr Met Leu Thr Leu
20 25 30

Lys Ile Thr Trp Leu Ile Met Ile Asp Ile Tyr Ile
35 40

<210> 119

atgacagaat ttgatgaaat cgtaaaacca gacgacaaag aagaaacttc agaatcaact 60
 gaagaaaatt tagaatcaac tgaagaaact tcagaatcaa ctgaagaatc aactgaagaa 120
 tcaactgaag aatcaactga agataaaaca gtagaaacaa tcgaagaaga aaatgaaaac 180
 aaattagaac ctactacaac agatgaagat agttcgaaat ttgaccctgt tgtattagaa 240
 caacgtattg cttcattaga acaacaagtg actacttttt tatcttcaca aatgcaacaa 300
 ccacaacaag tacaacaac acaatcagat gtaacagaat caaacaaga agataacgac 360
 tattcagatg aagaactagt tgataagta gatttagatt ag 402

<210> 69
 <211> 303
 <212> DNA
 <213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 69
 atggttaatg ttgataatgc accagaagaa aaaggacaag cctatactga aatgttgcaa 60
 ctattcaata aactgattca atggaatcca gcttatacat ttgacaatgc aattaactta 120
 ttatcggtt gccacaact attattaaac tataatagtt ctgtgttca attcttaa 180
 gatgaactaa acaacgaaac taaaccagaa tcaatattgt cttatattgc tggatgac 240
 ccaatagaac aatggaatat gcataaagga tttatgaaa cgtataacgt ttacgtttt 300
 tag 303

<210> 70
 <211> 198
 <212> DNA
 <213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 70
 atggaaaatg aaacaaaaaa cattgagtg aagcatgtt ttcgtttta gaatggaagt 60
 ttatgtatag cgttattga tagaacagaa aatgaaatt cattttatga tgttgacatt 120
 gatgaaattg aagatttaaa tcataattct gttttacgcg taattcaac ttattagga 180
 agtgataata atggttaa 198

<210> 71
 <211> 183
 <212> DNA
 <213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 71
 atgtatgagg gaaacaacat gcgttctatg atgggtacat catatgaaga ttcaagatta 60

aataaacgaa cagaattaaa tgaaaacatg tcaattgata caaataaaaag tgaagatagt 120

tatgggtgac aaattcattc actttcaaaa caatcattta cagggtgacgt tgaggaggaa 180

taa 183

<210> 72

<211> 150

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 72

atgaaaacat gtcaattgat acaaataaaa gtgaagatag ttatgggtga caaattcatt 60

cactttcaaa acaatcattt acaggtgacg ttgaggagga ataataaatt atggcacaac 120

aatctacaaa aaatgaaact gcacttttag 150

<210> 73

<211> 132

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 73

atgattgttt tgaaagtga tgaatttga caccataact atcttcactt ttatttgat 60

caattgacat gttttcattt aattctgttc gtttatttaa tcttgaatct tcatatgatg 120

tacccatcat ag 132

<210> 74

<211> 111

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 74

atgttttcat ttaattctgt tcgtttattt aatcttgaat ctccatatga tgtaccatc 60

atagaacgca tgttgtttcc ctcatatg tttaaattcc tcctaattca a 111

<210> 75

<211> 761

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 75

Met Gly Leu Leu Glu Cys Met Gln Tyr His Lys His Glu Arg Arg Met

1 5 10 15

Ile Leu Tyr Trp Asp Ile Glu Thr Leu Ala Tyr Asn Lys Val Asn Gly

20 25 30

Arg Lys Lys Pro Thr Lys Tyr Lys Asn Val Thr Tyr Ser Val Ala Ile
35 40 45

Gly Trp Phe Asn Gly Tyr Glu Ile Asp Val Glu Val Phe Pro Ser Phe
50 55 60

Glu Ser Phe Tyr Asp Ala Phe Tyr Thr Tyr Val Lys Arg Arg Asp Thr
65 70 75 80

Ile Thr Lys Ser Lys Thr Asp Ile Ile Met Ile Ala His Asn Cys Asn
85 90 95

Lys Tyr Asp Asn His Phe Leu Leu Lys Asp Thr Met Arg Tyr Phe Asp
100 105 110

Asn Ile Thr Arg Glu Asn Ile Tyr Leu Lys Ser Ala Glu Glu Asn Glu
115 120 125

His Thr Leu Lys Met Lys Glu Ala Thr Ile Leu Ala Lys Asn Gln Asn
130 135 140

Val Ile Leu Glu Lys Arg Val Lys Ser Ser Ile Asn Leu Asp Leu Thr
145 150 155 160

Met Phe Leu Asn Gly Phe Lys Phe Asn Ile Ile Asp Asn Phe Met Lys
165 170 175

Thr Asn Thr Ser Ile Ala Thr Leu Gly Lys Lys Leu Leu Asp Gly Gly
180 185 190

Tyr Leu Thr Glu Ser Gln Leu Lys Thr Asp Phe Asn Tyr Thr Ile Phe
195 200 205

Asp Lys Asp Asn Asp Met Asn Asp Ser Glu Ala Tyr Asp Tyr Ala Val
210 215 220

Lys Cys Phe Ala Lys Leu Thr Pro Glu Gln Leu Thr Tyr Ile His Asn
225 230 235 240

Asp Val Ile Ile Leu Gly Met Cys His Ile His Tyr Ser Asp Ile Phe
245 250 255

Pro Asn Phe Asp Tyr Asn Lys Leu Thr Phe Ser Leu Asn Ile Met Glu
260 265 270

Ser Tyr Leu Asn Asn Glu Met Thr Arg Phe Gln Leu Leu Asn Gln Tyr
275 280 285

Gln Asp Ile Lys Ile Ser Tyr Thr His Tyr His Phe His Asp Met Asn
290 295 300

Phe Tyr Asp Tyr Ile Lys Ser Phe Tyr Arg Gly Gly Leu Asn Met Tyr
305 310 315 320

Asn Thr Lys Tyr Ile Asn Lys Leu Ile Asp Glu Pro Cys Phe Ser Ile

| | | |
|---|-----|---------|
| 325 | 330 | 335 |
| Asp Ile Asn Ser Ser Tyr Pro Tyr Val Met Tyr His Glu Lys Ile Pro | | |
| 340 | 345 | 350 |
| Thr Trp Leu Tyr Phe Tyr Glu His Tyr Ser Glu Pro Thr Leu Ile Pro | | |
| 355 | 360 | 365 |
| Thr Phe Leu Asp Asp Asp Asn Tyr Phe Ser Leu Tyr Lys Ile Asp Lys | | |
| 370 | 375 | 380 |
| Asp Val Phe Asn Asp Asp Leu Leu Ile Lys Ile Lys Ser Arg Val Leu | | |
| 385 | 390 | 395 400 |
| Arg Gln Met Ile Val Lys Tyr Tyr Asn Asn Asp Asn Asp Tyr Val Asn | | |
| 405 | 410 | 415 |
| Ile Asn Thr Asn Thr Leu Arg Met Ile Gln Asp Ile Thr Gly Ile Asp | | |
| 420 | 425 | 430 |
| Cys Met His Ile Arg Val Asn Ser Phe Val Ile Tyr Glu Cys Glu Tyr | | |
| 435 | 440 | 445 |
| Phe His Ala Arg Asp Ile Ile Phe Gln Asn Tyr Phe Ile Lys Thr Gln | | |
| 450 | 455 | 460 |
| Gly Lys Leu Lys Asn Lys Ile Asn Met Thr Ser Pro Tyr Asp Tyr His | | |
| 465 | 470 | 475 480 |
| Ile Thr Asp Asp Ile Asn Glu His Pro Tyr Ser Asn Glu Glu Val Met | | |
| 485 | 490 | 495 |
| Leu Ser Lys Val Val Leu Asn Gly Leu Tyr Gly Ile Pro Ala Leu Arg | | |
| 500 | 505 | 510 |
| Ser His Phe Asn Leu Phe Arg Leu Asp Asp Asn Asn Glu Leu Tyr Asn | | |
| 515 | 520 | 525 |
| Ile Ile Asn Gly Tyr Lys Asn Thr Glu Arg Asn Ile Leu Phe Ser Thr | | |
| 530 | 535 | 540 |
| Phe Val Thr Ser Arg Ser Leu Tyr Asn Leu Leu Val Pro Phe Gln Tyr | | |
| 545 | 550 | 555 560 |
| Leu Thr Glu Ser Glu Ile Asp Asp Asn Phe Ile Tyr Cys Asp Thr Asp | | |
| 565 | 570 | 575 |
| Ser Leu Tyr Met Lys Ser Val Val Lys Pro Leu Leu Asn Pro Ser Leu | | |
| 580 | 585 | 590 |
| Phe Asp Pro Ile Ala Leu Gly Lys Trp Asp Ile Glu Asn Glu Gln Ile | | |
| 595 | 600 | 605 |
| Asp Lys Met Phe Val Leu Asn His Lys Lys Tyr Ala Tyr Glu Val Asn | | |
| 610 | 615 | 620 |

Gly Lys Ile Lys Ile Ala Ser Ala Gly Ile Pro Lys Asn Ala Phe Asp
625 630 635 640

Thr Ser Val Asp Phe Glu Thr Phe Val Arg Glu Gln Phe Phe Asp Gly
 645 650 655

Ala Ile Ile Glu Asn Asn Lys Ser Ile Tyr Asn Glu Gln Gly Thr Ile
 660 665 670

Ser Ile Tyr Pro Ser Lys Thr Glu Ile Val Cys Gly Asn Val Tyr Asp
 675 680 685

Glu Tyr Phe Thr Asp Glu Leu Asn Met Lys Arg Glu Phe Ile Leu Lys
 690 695 700

Asp Ala Arg Glu Asn Phe Asp His Ser Gln Phe Asp Asp Ile Leu Tyr
705 710 715 720

Ile Glu Ser Asp Ile Gly Ser Phe Ser Leu Asn Asp Leu Phe Pro Val
 725 730 735

Glu Arg Ser Val His Asn Lys Ser Asp Leu His Ile Leu Lys Arg Glu
 740 745 750

His Asp Glu Ile Lys Lys Gly Asn Cys
 755 760

<210> 76

<211> 647

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 76

Met Ala Tyr Asn Glu Asn Asp Phe Lys Tyr Phe Asp Asp Ile Arg Pro
1 5 10 15

Phe Leu Asp Glu Ile Tyr Lys Thr Arg Glu Arg Tyr Thr Pro Phe Tyr
 20 25 30

Asp Asp Arg Ala Asp Tyr Asn Thr Asn Ser Lys Ser Tyr Tyr Asp Tyr
 35 40 45

Ile Ser Arg Leu Ser Lys Leu Ile Glu Val Leu Ala Arg Arg Ile Trp
 50 55 60

Asp Tyr Asp Asn Glu Leu Lys Lys Arg Phe Lys Asn Trp Asp Asp Leu
65 70 75 80

Met Lys Ala Phe Pro Glu Gln Ala Lys Asp Leu Phe Arg Gly Trp Leu
 85 90 95

Asn Asp Gly Thr Ile Asp Ser Ile Ile His Asp Glu Phe Lys Lys Tyr
 100 105 110

Ser Ala Gly Leu Thr Ser Ala Phe Ala Leu Phe Lys Val Thr Glu Met

| | | |
|---|-----|-----|
| 115 | 120 | 125 |
| Lys Gln Met Asn Asp Phe Lys Ser Glu Val Lys Asp Leu Ile Lys Asp | | |
| 130 | 135 | 140 |
| Ile Asp Arg Phe Val Asn Gly Phe Glu Leu Asn Glu Leu Glu Pro Lys | | |
| 145 | 150 | 155 |
| | 160 | |
| Phe Val Met Gly Phe Gly Gly Ile Arg Asn Ala Val Asn Gln Ser Ile | | |
| 165 | 170 | 175 |
| Asn Ile Asp Lys Glu Thr Asn His Met Tyr Ser Thr Gln Ser Asp Ser | | |
| 180 | 185 | 190 |
| Gln Lys Pro Glu Gly Phe Trp Ile Asn Lys Leu Thr Pro Ser Gly Asp | | |
| 195 | 200 | 205 |
| Leu Ile Ser Ser Met Arg Ile Val Gln Gly Gly His Gly Thr Thr Ile | | |
| 210 | 215 | 220 |
| Gly Leu Glu Arg Gln Ser Asn Gly Glu Met Lys Ile Trp Leu His His | | |
| 225 | 230 | 235 |
| | 240 | |
| Asp Gly Val Ala Lys Leu Leu Gln Val Ala Tyr Lys Asp Asn Tyr Val | | |
| 245 | 250 | 255 |
| Leu Asp Leu Glu Glu Ala Lys Gly Leu Thr Asp Tyr Thr Pro Gln Ser | | |
| 260 | 265 | 270 |
| Leu Leu Asn Lys His Thr Phe Thr Pro Leu Ile Asp Glu Ala Asn Asp | | |
| 275 | 280 | 285 |
| Lys Leu Ile Leu Arg Phe Gly Asp Gly Thr Ile Gln Val Arg Ser Arg | | |
| 290 | 295 | 300 |
| Ala Asp Val Lys Asn His Ile Asp Asn Val Glu Lys Glu Met Thr Ile | | |
| 305 | 310 | 315 |
| | 320 | |
| Asp Asn Ser Glu Asn Asn Asp Asn Arg Trp Met Gln Gly Ile Ala Val | | |
| 325 | 330 | 335 |
| Asp Gly Asp Asp Leu Tyr Trp Leu Ser Gly Asn Ser Ser Val Asn Ser | | |
| 340 | 345 | 350 |
| His Val Gln Ile Gly Lys Tyr Ser Leu Thr Thr Gly Gln Lys Ile Tyr | | |
| 355 | 360 | 365 |
| Asp Tyr Pro Phe Lys Leu Ser Tyr Gln Asp Gly Ile Asn Phe Pro Arg | | |
| 370 | 375 | 380 |
| Asp Asn Phe Lys Glu Pro Glu Gly Ile Cys Ile Tyr Thr Asn Pro Lys | | |
| 385 | 390 | 395 |
| | 400 | |
| Thr Lys Arg Lys Ser Leu Leu Leu Ala Met Thr Asn Gly Gly Gly Gly | | |
| 405 | 410 | 415 |

Lys Arg Phe His Asn Leu Tyr Gly Phe Phe Gln Leu Gly Glu Tyr Glu
420 425 430

His Phe Glu Ala Leu Arg Ala Arg Gly Ser Gln Asn Tyr Lys Leu Thr
435 440 445

Lys Asp Asp Gly Arg Ala Leu Ser Ile Pro Asp His Ile Asp Asp Leu
450 455 460

Asn Asp Leu Thr Gln Ala Gly Phe Tyr Tyr Ile Asp Gly Gly Thr Ala
465 470 475 480

Glu Lys Leu Lys Asn Met Pro Met Asn Gly Ser Lys Arg Ile Ile Asp
485 490 495

Ala Gly Cys Phe Ile Asn Val Tyr Pro Thr Thr Gln Thr Leu Gly Thr
500 505 510

Val Gln Glu Leu Thr Arg Phe Ser Thr Gly Arg Lys Met Val Lys Met
515 520 525

Val Arg Gly Met Thr Leu Asp Val Phe Thr Leu Lys Trp Asp Tyr Gly
530 535 540

Leu Trp Thr Thr Ile Lys Thr Asp Ala Pro Tyr Gln Glu Tyr Leu Glu
545 550 555 560

Ala Ser Gln Tyr Asn Asn Trp Ile Ala Tyr Val Thr Thr Ala Gly Glu
565 570 575

Tyr Tyr Ile Thr Gly Asn Gln Met Glu Leu Phe Arg Asp Ala Pro Glu
580 585 590

Glu Ile Lys Lys Val Gly Ala Trp Leu Arg Val Ser Ser Gly Asn Ala
595 600 605

Val Gly Glu Val Arg Gln Thr Leu Glu Ala Asn Ile Ser Glu Tyr Lys
610 615 620

Glu Phe Phe Ser Asn Val Asn Ala Glu Thr Lys His Arg Glu Tyr Gly
625 630 635 640

Trp Val Ala Lys His Gln Lys
645

<210> 77

<211> 587

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 77

Met Arg Lys Leu Thr Asn Phe Lys Phe Phe Tyr Asn Thr Pro Phe Thr
1 5 10 15

Asp Tyr Gln Asn Thr Ile His Phe Asn Ser Asn Lys Glu Arg Asp Asp

| | | |
|---|-----|---------|
| 20 | 25 | 30 |
| Tyr Phe Leu Asn Gly Arg His Phe Lys Ser Leu Asp Tyr Ser Lys Gln | | |
| 35 | 40 | 45 |
| Pro Tyr Asn Phe Ile Arg Asp Arg Met Glu Ile Asn Val Asp Met Gln | | |
| 50 | 55 | 60 |
| Trp His Asp Ala Gln Gly Ile Asn Tyr Met Thr Phe Leu Ser Asp Phe | | |
| 65 | 70 | 75 80 |
| Glu Asp Arg Arg Tyr Tyr Ala Phe Val Asn Gln Ile Glu Tyr Val Asn | | |
| 85 | 90 | 95 |
| Asp Val Val Val Lys Ile Tyr Phe Val Ile Asp Thr Ile Met Thr Tyr | | |
| 100 | 105 | 110 |
| Thr Gln Gly Asn Val Leu Glu Gln Leu Ser Asn Val Asn Ile Glu Arg | | |
| 115 | 120 | 125 |
| Gln His Leu Ser Lys Arg Thr Tyr Asn Tyr Met Leu Pro Met Leu Arg | | |
| 130 | 135 | 140 |
| Asn Asn Asp Asp Val Leu Lys Val Ser Asn Lys Asn Tyr Val Tyr Asn | | |
| 145 | 150 | 155 160 |
| Gln Met Gln Gln Tyr Leu Glu Asn Leu Val Leu Phe Gln Ser Ser Ala | | |
| 165 | 170 | 175 |
| Asp Leu Ser Lys Lys Phe Gly Thr Lys Lys Glu Pro Asn Leu Asp Thr | | |
| 180 | 185 | 190 |
| Ser Lys Gly Thr Ile Tyr Asp Asn Ile Thr Ser Pro Val Asn Leu Tyr | | |
| 195 | 200 | 205 |
| Val Met Glu Tyr Gly Asp Phe Ile Asn Phe Met Asp Lys Met Ser Ala | | |
| 210 | 215 | 220 |
| Tyr Pro Trp Ile Thr Gln Asn Phe Gln Lys Val Gln Met Leu Pro Lys | | |
| 225 | 230 | 235 240 |
| Asp Phe Ile Asn Thr Lys Asp Leu Glu Asp Val Lys Thr Ser Glu Lys | | |
| 245 | 250 | 255 |
| Ile Thr Gly Leu Lys Thr Leu Lys Gln Gly Gly Lys Ser Lys Glu Trp | | |
| 260 | 265 | 270 |
| Ser Leu Lys Asp Leu Ser Leu Ser Phe Ser Asn Leu Gln Glu Met Met | | |
| 275 | 280 | 285 |
| Leu Ser Lys Lys Asp Glu Phe Lys His Met Ile Arg Asn Glu Tyr Met | | |
| 290 | 295 | 300 |
| Thr Ile Glu Phe Tyr Asp Trp Asn Gly Asn Thr Met Leu Leu Asp Ala | | |
| 305 | 310 | 315 320 |

Gly Lys Ile Ser Gln Lys Thr Gly Val Lys Leu Arg Thr Lys Ser Ile
325 330 335

Ile Gly Tyr His Asn Glu Val Arg Val Tyr Pro Val Asp Tyr Asn Ser
340 345 350

Ala Glu Asn Asp Arg Pro Ile Leu Ala Lys Asn Lys Glu Ile Leu Ile
355 360 365

Asp Thr Gly Ser Phe Leu Asn Thr Asn Ile Thr Phe Asn Ser Phe Ala
370 375 380

Gln Val Pro Ile Leu Ile Asn Asn Gly Ile Leu Gly Gln Ser Gln Gln
385 390 395 400

Ala Asn Arg Gln Lys Asn Ala Glu Ser Gln Leu Ile Thr Asn Arg Ile
405 410 415

Asp Asn Val Leu Asn Gly Ser Asp Pro Lys Ser Arg Phe Tyr Asp Ala
420 425 430

Val Ser Val Ala Ser Asn Leu Ser Pro Thr Ala Leu Phe Gly Lys Phe
435 440 445

Asn Glu Glu Tyr Asn Phe Tyr Lys Gln Gln Gln Ala Glu Tyr Lys Asp
450 455 460

Leu Ala Leu Gln Pro Pro Ser Val Thr Glu Ser Glu Met Gly Asn Ala
465 470 475 480

Phe Gln Ile Ala Asn Ser Ile Asn Gly Leu Thr Met Lys Ile Ser Val
485 490 495

Pro Ser Pro Lys Glu Ile Thr Phe Leu Gln Lys Tyr Tyr Met Leu Phe
500 505 510

Gly Phe Glu Val Asn Asp Tyr Asn Ser Phe Ile Glu Pro Ile Asn Ser
515 520 525

Met Thr Val Cys Asn Tyr Leu Lys Cys Thr Gly Thr Tyr Thr Ile Arg
530 535 540

Asp Ile Asp Pro Met Leu Met Glu Gln Leu Lys Ala Ile Leu Glu Ser
545 550 555 560

Gly Val Arg Phe Trp His Asn Asp Gly Ser Gly Asn Pro Met Leu Gln
565 570 575

Asn Pro Leu Asn Asn Lys Phe Arg Glu Gly Val
580 585

<210> 78

<211> 487

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 78

Met Ile Leu Lys Arg Val Ile Thr Met Asn Asp Gln Glu Lys Ile Asp
1 5 10 15

Lys Phe Thr His Ser Tyr Ile Asn Asp Asp Phe Gly Leu Thr Ile Asp
20 25 30

Gln Leu Val Pro Lys Val Lys Gly Tyr Gly Arg Phe Asn Val Trp Leu
35 40 45

Gly Gly Asn Glu Ser Lys Ile Arg Gln Val Leu Lys Ala Val Lys Glu
50 55 60

Ile Gly Val Ser Pro Thr Leu Phe Ala Val Tyr Glu Lys Asn Glu Gly
65 70 75 80

Phe Ser Ser Gly Leu Gly Trp Leu Asn His Thr Ser Ala Arg Gly Asp
85 90 95

Tyr Leu Thr Asp Ala Lys Phe Ile Ala Arg Lys Leu Val Ser Gln Ser
100 105 110

Lys Gln Ala Gly Gln Pro Ser Trp Tyr Asp Ala Gly Asn Ile Val His
115 120 125

Phe Val Pro Gln Asp Val Gln Arg Lys Gly Asn Ala Asp Phe Ala Lys
130 135 140

Asn Met Lys Ala Gly Thr Ile Gly Arg Ala Tyr Ile Pro Leu Thr Ala
145 150 155 160

Ala Ala Thr Trp Ala Ala Tyr Tyr Pro Leu Gly Leu Lys Ala Ser Tyr
165 170 175

Asn Lys Val Gln Asn Tyr Gly Asn Pro Phe Leu Asp Gly Ala Asn Thr
180 185 190

Ile Leu Ala Trp Gly Gly Lys Leu Asp Gly Lys Gly Gly Ser Pro Ser
195 200 205

Asp Ser Ser Asp Ser Gly Ser Ser Gly Asp Ser Gly Ser Ser Leu Leu
210 215 220

Ala Leu Ala Lys Gln Ala Met Gln Glu Leu Leu Lys Lys Ile Gln Asp
225 230 235 240

Ala Leu Gln Trp Asp Val His Ser Ile Gly Ser Asp Lys Phe Phe Ser
245 250 255

Asn Asp Tyr Phe Thr Leu Glu Lys Thr Phe Asn Asn Thr Tyr His Ile
260 265 270

Lys Met Thr Ile Gly Leu Leu Asp Ser Leu Lys Lys Leu Ile Asp Ser
275 280 285

Val Gln Val Asp Ser Gly Ser Ser Ser Ser Asn Pro Thr Asp Asp Asp

290 295 300
 Gly Asp His Lys Pro Ile Ser Gly Lys Ser Val Lys Pro Asn Gly Lys
 305 310 315 320
 Ser Gly Arg Val Ile Gly Gly Asn Trp Thr Tyr Ala Gln Leu Pro Glu
 325 330 335
 Lys Tyr Lys Lys Ala Ile Gly Val Pro Leu Phe Lys Lys Glu Tyr Leu
 340 345 350
 Tyr Lys Pro Gly Asn Ile Phe Pro Gln Thr Gly Asn Ala Gly Gln Cys
 355 360 365
 Thr Glu Leu Thr Trp Ala Tyr Met Ser Gln Leu His Gly Lys Arg Gln
 370 375 380
 Pro Thr Asp Asp Gly Gln Ile Thr Asn Gly Gln Arg Val Trp Tyr Val
 385 390 395 400
 Tyr Lys Lys Leu Gly Ala Lys Thr Thr His Asn Pro Thr Val Gly Tyr
 405 410 415
 Gly Phe Ser Ser Lys Pro Pro Tyr Leu Gln Ala Thr Ala Tyr Gly Ile
 420 425 430
 Gly His Thr Gly Val Val Val Ala Val Phe Glu Asp Gly Ser Phe Leu
 435 440 445
 Val Ala Asn Tyr Asn Val Pro Pro Tyr Val Ala Pro Ser Arg Val Val
 450 455 460
 Leu Tyr Thr Leu Ile Asn Gly Val Pro Asn Asn Ala Gly Asp Asn Ile
 465 470 475 480
 Val Phe Phe Ser Gly Ile Ala
 485

<210> 79

<211> 415

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 79

Met Val Lys Gln Asn Arg Leu Asp Met Val Arg Asp Tyr Gln Asn Ala
 1 5 10 15

Val Asn His Val Arg Lys Lys Ile Pro Asp Lys Tyr Asn Gln Ile Glu
 20 25 30

Leu Val Asp Glu Leu Met Asn Asp Asp Ile Asp Tyr Tyr Ile Ser Ile
 35 40 45

Ser Asn Arg Ser Asp Gly Lys Ser Phe Asn Tyr Val Ser Phe Phe Ile
 50 55 60

Tyr Leu Ala Ile Lys Leu Asp Ile Lys Phe Thr Leu Leu Ser Arg His
65 70 75 80

Tyr Thr Leu Arg Asp Ala Tyr Arg Asp Phe Ile Glu Glu Ile Ile Asp
85 90 95

Glu Asn Pro Leu Phe Lys Ser Lys Arg Val Thr Phe Arg Ser Ala Arg
100 105 110

Asp Tyr Leu Ala Ile Ile Tyr Gln Asp Lys Glu Ile Gly Val Ile Thr
115 120 125

Asp Leu Asn Ser Ala Thr Asp Leu Lys Tyr His Ser Asn Phe Leu Lys
130 135 140

His Tyr Pro Ile Ile Ile Tyr Asp Glu Phe Leu Ala Leu Glu Asp Asp
145 150 155 160

Tyr Leu Ile Asp Glu Trp Asp Lys Leu Lys Thr Ile Tyr Glu Ser Ile
165 170 175

Asp Arg Asn His Gly Asn Val Asp Tyr Ile Gly Phe Pro Lys Met Phe
180 185 190

Leu Leu Gly Asn Ala Val Asn Phe Ser Ser Pro Ile Leu Ser Asn Leu
195 200 205

Asn Ile Tyr Asn Leu Leu Gln Lys His Lys Met Asn Thr Ser Arg Leu
210 215 220

Tyr Lys Asn Ile Phe Leu Glu Met Arg Arg Asn Asp Tyr Val Asn Glu
225 230 235 240

Lys Arg Asn Thr Arg Ala Phe Asn Ser Asn Asp Asp Ala Met Thr Thr
245 250 255

Gly Glu Phe Glu Phe Asn Glu Tyr Asn Leu Ala Asp Asp Asn Leu Arg
260 265 270

Asn His Ile Asn Gln Asn Gly Asp Phe Phe Tyr Ile Lys Thr Asp Asp
275 280 285

Lys Tyr Ile Lys Val Met Tyr Asn Val Thr Thr Phe Met Thr Asn Ile
290 295 300

Ile Val Val Pro Tyr Thr Lys Gln Tyr Glu Phe Cys Thr Lys Ile Arg
305 310 315 320

Asp Ile Asp Asn His Val Thr Tyr Leu Arg Asp Asp Met Phe Tyr Lys
325 330 335

Glu Asn Met Glu Arg Tyr Tyr Tyr Asn Pro Ser Asn Leu His Phe Asp
340 345 350

Asn Ala Tyr Ser Lys Asn Tyr Val Val Asp Asn Asp Arg Tyr Leu Tyr
355 360 365

Leu Asp Met Asn Lys Ile Ile Lys Phe His Ile Lys Asn Glu Met Lys
370 375 380

Lys Asn Met Ser Glu Phe Glu Arg Lys Glu Lys Ile Tyr Glu Asp Asn
385 390 395 400

Tyr Ile Glu Asn Thr Lys Lys Tyr Leu Met Lys Gln Tyr Gly Leu
405 410 415

<210> 80

<211> 408

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 80

Met Ala Gln Gln Ser Thr Lys Asn Glu Thr Ala Leu Leu Val Ala Lys
1 5 10 15

Ser Ala Lys Ser Ala Leu Gln Asp Phe Asn His Asp Tyr Ser Lys Ser
20 25 30

Trp Thr Phe Gly Asp Lys Trp Asp Asn Ser Asn Thr Met Phe Glu Thr
35 40 45

Phe Val Asn Lys Tyr Leu Phe Pro Lys Ile Asn Glu Thr Leu Leu Ile
50 55 60

Asp Ile Ala Leu Gly Asn Arg Phe Asn Trp Leu Ala Lys Glu Gln Asp
65 70 75 80

Phe Ile Gly Gln Tyr Ser Glu Glu Tyr Val Ile Met Asp Thr Val Pro
85 90 95

Ile Asn Met Asp Leu Ser Lys Asn Glu Glu Leu Met Leu Lys Arg Asn
100 105 110

Tyr Pro Arg Met Ala Thr Lys Leu Tyr Gly Asn Gly Ile Val Lys Lys
115 120 125

Gln Lys Phe Thr Leu Asn Asn Asn Asp Thr Arg Phe Asn Phe Gln Thr
130 135 140

Leu Ala Asp Ala Thr Asn Tyr Ala Leu Gly Val Tyr Lys Lys Lys Ile
145 150 155 160

Ser Asp Ile Asn Val Leu Glu Lys Glu Met Arg Ala Met Leu Val
165 170 175

Asp Tyr Ser Leu Asn Gln Leu Ser Glu Thr Asn Val Arg Lys Ala Thr
180 185 190

Ser Lys Glu Asp Leu Ala Ser Lys Val Phe Glu Ala Ile Leu Asn Leu
195 200 205

Gln Asn Asn Ser Ala Lys Tyr Asn Glu Val His Arg Ala Ser Gly Gly
210 215 220

Ala Ile Gly Gln Tyr Thr Thr Val Ser Lys Leu Lys Asp Ile Val Ile
225 230 235 240

Leu Thr Thr Asp Ser Leu Lys Ser Tyr Leu Leu Asp Thr Lys Ile Ala
245 250 255

Asn Thr Phe Gln Ile Ala Gly Ile Asp Phe Thr Asp His Val Ile Ser
260 265 270

Phe Asp Asp Leu Gly Gly Val Phe Lys Val Thr Lys Glu Phe Lys Leu
275 280 285

Gln Asn Gln Asp Ser Ile Asp Phe Leu Arg Ala Tyr Gly Asp Tyr Gln
290 295 300

Ser Gln Leu Gly Asp Thr Ile Pro Val Gly Ala Val Phe Thr Tyr Asp
305 310 315 320

Val Ser Lys Leu Lys Glu Phe Thr Gly Asn Val Glu Glu Ile Lys Pro
325 330 335

Lys Ser Asp Leu Tyr Ala Phe Ile Leu Asp Ile Asn Ser Ile Lys Tyr
340 345 350

Lys Arg Tyr Thr Lys Gly Met Leu Lys Pro Pro Phe His Asn Pro Glu
355 360 365

Phe Asp Glu Val Thr His Trp Ile His Tyr Tyr Ser Phe Lys Ala Ile
370 375 380

Ser Pro Phe Phe Asn Lys Ile Leu Ile Thr Asp Gln Asp Val Asn Pro
385 390 395 400

Lys Pro Glu Glu Glu Leu Gln Glu
405

<210> 81

<211> 327

<212> PRT

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 81

Met Asn Asn Asp Lys Arg Gly Leu Asn Val Glu Leu Ser Lys Glu Ile
1 5 10 15

Ser Lys Arg Val Val Glu His Arg Asn Arg Phe Lys Arg Leu Met Phe
20 25 30

Asn Arg Tyr Leu Glu Phe Leu Pro Leu Leu Ile Asn Tyr Thr Asn Arg
35 40 45

Asp Thr Val Gly Ile Asp Phe Ile Gln Leu Glu Ser Ala Leu Arg Gln

50 55 60
 Asn Ile Asn Val Val Val Gly Glu Ala Arg Asn Lys Gln Ile Met Ile
 65 70 75 80
 Leu Gly Tyr Val Asn Asn Thr Tyr Phe Asn Gln Ala Pro Asn Phe Ser
 85 90 95
 Ser Asn Phe Asn Phe Gln Phe Gln Lys Arg Leu Thr Lys Glu Asp Ile
 100 105 110
 Tyr Phe Ile Val Pro Asp Tyr Leu Ile Pro Asp Asp Cys Leu Gln Ile
 115 120 125
 His Lys Leu Tyr Asp Asn Cys Met Ser Gly Asn Phe Val Val Met Gln
 130 135 140
 Asn Lys Pro Ile Gln Tyr Asn Ser Asp Ile Glu Ile Ile Glu His Tyr
 145 150 155 160
 Thr Asp Glu Leu Ala Glu Val Ala Leu Ser Arg Phe Ser Leu Ile Met
 165 170 175
 Gln Ala Lys Phe Ser Lys Ile Phe Lys Ser Glu Ile Asn Asp Glu Ser
 180 185 190
 Ile Asn Gln Leu Val Ser Glu Ile Tyr Asn Gly Ala Pro Phe Val Lys
 195 200 205
 Met Ser Pro Met Phe Asn Ala Asp Asp Asp Ile Ile Asp Leu Thr Ser
 210 215 220
 Asn Ser Val Ile Pro Ala Leu Thr Glu Met Lys Arg Glu Tyr Gln Asn
 225 230 235 240
 Lys Ile Ser Glu Leu Ser Asn Tyr Leu Gly Ile Asn Ser Leu Ala Val
 245 250 255
 Asp Lys Glu Ser Gly Val Ser Asp Glu Glu Ala Lys Ser Asn Arg Gly
 260 265 270
 Phe Thr Thr Ser Asn Ser Asn Ile Tyr Leu Lys Gly Arg Glu Pro Ile
 275 280 285
 Thr Phe Leu Ser Lys Arg Tyr Gly Leu Asp Ile Lys Pro Tyr Tyr Asp
 290 295 300
 Asp Glu Thr Thr Ser Lys Ile Ser Met Val Asp Thr Leu Phe Lys Asp
 305 310 315 320
 Glu Ser Ser Asp Ile Asn Gly
 325

<210> 82

<211> 251

<212> PRT

<210> 16
<211> 243
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 16
gtgacgataa caccttggtc accgaatgtt gattcttgt ttggaataa tgctctaacg 60
atatactctt tttcatacc gtattttct actaattctg atagttgat aaattctctt 120
tcttttctt caaattcaaa tctcgctaat gtgttttgt gtcttgataa aatatctttt 180
acgtttgtca tttatttct cctctattt aaattattg cttctgcaa ttgcgatttg 240
tag 243

<210> 17
<211> 237
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 17
atgaaagtg acgacattgt taccttacgt gtcaaagggt atatacttca ttacttagat 60
gatgataatg aatacattga ggaatttta ccacttcacg agtatcattt aaccaaaaca 120
caagcaaaag aattattacc agacacatgt aaactattgt ccactacacg cacaacgaaa 180
acaattcaag ttattacaa tgatttacta caaatcgcaa ttgcagaaag caaataa 237

<210> 18
<211> 222
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 18
atggaaagat taaaattgct tctgctggta taccgaaaaa cgccttgat acaagcgtcg 60
attttgaaac cttgtacgt gaacaattct ttgacgggtc cattattgaa aacaataaaa 120
gtatctataa tgagcaaggt acaatatcga tatatccgtc taaaactgaa attgtatgtg 180
gtaatgtata tgatgaatat ttactgatg aactaatat ga 222

<210> 19
<211> 213
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 19
atgttaattg gtactgtgc cataatcacg tattcttcac tatattgtcc aataaaatct 60

tgctcttag ctaaccaatt aaaacgatta cctaagcaa tatcgattaa taaagtctca 120

ttaatcttag ggaataaata ttatttaca aatgtttcga acattgtatt tgaattatcc 180

cattgtcgc caaatgtcca agatttgaa taa 213

<210> 20

<211> 207

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 20

atgttacctg gttgtataa gtattcttt ttgaataaag gtacaccaat tgcttttta 60

tattttctg gtaactgtgc atatgtccag ttaccaccaa tcacacgacc acttttcca 120

ttggcttga ctgattacc actaattggt ttatggctc cgtcatcatc agtaggatta 180

gaactactac tccactatc tacttga 207

<210> 21

<211> 189

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 21

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tacagtgtta aatttattcg tcaaattgtg cataatataa aaagttatac ctcacatctt 120

catcatcaat attgtcact ggtctatctg atttaccat ttctttatat aaagtatcga 180

tttcttaa 189

<210> 22

<211> 183

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 22

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atgtttgtt tccgattaa cattactgaa gaattcttta tattccgata tattagcctc 180

taa 183

<210> 23

<211> 144

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 23

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tttttgacc ataagttatt attttaatt gctttgaaa tacctgtaat aatatcaacg 120

aacattaata caaataaaaa gtag 144

<210> 24

<211> 180

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 24

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ggcgactgg taaataataa cgtgtgcctt gccagttata accaatccat acgtaacct 120

ctgataaaca aacttcgtta tatggtgtat aaccgtttgg ttggaaccaa tagccattag 180

<210> 25

<211> 177

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 25

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tcatttaaaa ataaatcttt ttctgtctct ttctagctt ctctttcttt ttccatcta 120

tccatttcag acgtatgtct aaccaatgtt atcaacctcc atataaagca taaataa 177

<210> 26

<211> 177

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 26

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catcaaactc caatgtttga agatttatat gacgctaaag ttgtatattc atattatgaa 120

tataacctgt tcactaaaaa atacgcgtat atcatagaat acattaagga gatataa 177

<210> 27

<211> 168

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 27

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ttctatatta tcttttaat gggtattat gctttatatg gaggtga 168

<210> 28

<211> 165

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 28

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gataatattt gtcataaaag tagttacatt atacatgact ttaatatatt tatcatcagt 120

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<210> 29

<211> 165

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 29

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gttgccagc ttgtttgat tggatacta actttctgc tatga 165

<210> 30

<211> 165

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 30

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attatgaata taacctgttc actaaaaaat acgcgtatat catag 165

<210> 31

<211> 162

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 31

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aaaaatgcta aaaggaaaac aatggctatg ttaatatagg tattcatggt caatcacttt 120

cccattatcg tatatgactt tgttttgata aataatcatt aa 162

<210> 32
<211> 153
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 32
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gcaggatgac catataatcc atttaaaacg actttagata acataacctc ctcatgtgag 120
tatgggtgtt cggtgatatc atcagtaatg tga 153

<210> 33
<211> 150
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 33
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ttcgaccgt ctaaaaatgg attaccatag 150

<210> 34
<211> 150
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 34
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aattgtgtac ctttgcatt acctttttga 150

<210> 35
<211> 147
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 35
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ctaaaaataa taattcttca atgtataaat atattaaaga aatcgatact ttatataaag 120
aaattggtaa atcagataga ccagtgaa 147

<210> 36
<211> 147

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 36

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caaaaacatg gtaaaacaaa atcgtttaga catggtgaaga gattatcaaa atgctgtcaa 120

tcatgtcaga aaaaaaatcc cagataa 147

<210> 37

<211> 147

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 37

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ttgcttgtaa gtaggtggt ttactag 147

<210> 38

<211> 144

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 38

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aactcaatat acacatcacc catatttatt ttactatac atttttatt agatgaagta 120

aattttcaa atttatcatt ataa 144

<210> 39

<211> 144

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 39

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tactcgattt attcacagtt ttaccggtat caatcgtatt attatcagcg aatcgtaacg 120

ttgtattatc aacatcaatg ttaa 144

<210> 40

<211> 141

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 40

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gttacacaaa aggtatgta a 141

<210> 41
<211> 138
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

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tattcaaaaa agaatactta tacaaccag gtaacatatt tcctcaaacg ggtaatgcag 120
gacaatgtac agaattaa 138

<210> 42
<211> 138
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

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atattgattc tggtttag 138

<210> 43
<211> 138
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 43
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caaagtgttc atactacca agttggaaga aaccatataa attatggaaa cgttttccac 120
caccgccgtt tgtcatag 138

<210> 44
<211> 138
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

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tggattgacg ttctaaccg attgtgtac catgaccacc ctgtacaata cgcattgctg 120

aaattaagtc accactag

138

<210> 45

<211> 135

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 45

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135

<210> 46

<211> 129

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 46

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gcgttttgc gtataccagc agaagcaatt ttaatctttc cattcacttc atatgcatat 120

ttcttatga

129

<210> 47

<211> 129

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 47

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129

<210> 48

<211> 129

<212> DNA

<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 48

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ggcttcacta tcattcatat cattatcttt atcaaaaaatc gtataattaa aatctgtttt 120

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129

<210> 49

<211> 129
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 49
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aaaacaaaaa aggtcaaaaa ggttactcaa tcaattttgg tcaagtatca tttaataca 120
attcatag 129

<210> 50
<211> 126
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 50
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cgataa 126

<210> 51
<211> 126
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 51
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aaagtcttga tgtattcatt ttatgctttt gtaataaatt gtatatattt aaattggata 120
atatag 126

<210> 52
<211> 123
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 52
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taa 123

<210> 53
<211> 123
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 53
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acacatggaa acatttgca catctgccct atttcctaa agaaagaaac gtatcatatg 120
taa 123

<210> 54
<211> 120
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<210> 55
<211> 120
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<210> 56
<211> 117
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 56
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aaaattcttc aatgtattca ttatcatcat ctaagtaatg aagtatataa cctttga 117

<210> 57
<211> 114
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 57
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<210> 58
<211> 111
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 58
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caaataatgc tgggtataat attgtattct ttagtggtat tgcttaatta a 111

<210> 59
<211> 111
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 59
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attacctaag ggctatcggg tcgaataaac tgggggtcaa taagggtta a 111

<210> 60
<211> 111
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 60
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<210> 61
<211> 111
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 61
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<210> 62
<211> 108
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 62
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<210> 63
<211> 105
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

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<210> 64
<211> 105
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

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aactaccact gtcaccacta ctaccactgt cagacgaatc actag 105

<210> 65
<211> 102
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 65
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tgtcacctat gttaatgca gatgacgata tcattgattt aa 102

<210> 66
<211> 102
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 66
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ttgaagcatt acgcgcaaga ggttcacaaa actataaatt aa 102

<210> 67
<211> 102
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 67
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ttgaacgttc agtacataac aaatctgatt tgcatatatt aa 102

<210> 68
<211> 402
<212> DNA
<213> Staphylococcus aureus Bacteriophage 44AHJD

<400> 68